

**What is claimed is:**

1. A spring-based crankshaft coupling structure used in an engine and coupled between a piston and a crankshaft to enhance the output torque of the engine, comprising:

5           a first coupling member pivoted to said piston, said first coupling member comprising a downwardly extended receiving open chamber defined in a downwardly extended hollow body thereof and an inner tube suspended in said downwardly extended receiving open chamber inside said downwardly extended hollow body;

10          a second coupling member pivoted to said crankshaft, said second coupling member comprising an upwardly extended hollow body inserted into the downwardly extended receiving open chamber and axially movably sleeved onto said inner tube, and an upwardly extended receiving open chamber defined in said upwardly extended hollow body thereof and adapted to receive

15          said inner tube and

an axially compressible spring member mounted in said inner tube inside said first coupling member and coupled between said first coupling member and said second coupling member.

2. The spring-based crankshaft coupling structure as claimed in claim  
20 1, wherein said first coupling member comprises a stem coaxially suspended inside said inner tube; said second coupling member comprises a stem suspended in said upwardly extended receiving open chamber and aimed at the stem of said first coupling member; said axially compressible spring member

has two ends respectively fastened to the stem inside said first coupling member and the stem inside said second coupling member..

3. The spring-based crankshaft coupling structure as claimed in claim 2, further comprising stop means adapted to limit the distance of axial movement of said second coupling member relative to said first coupling member.

4. The spring-based crankshaft coupling structure as claimed in claim 3, wherein said stop means comprises a first annular stop flange radially inwardly protruded from a bottom end of the hollow body of said first coupling member and disposed in contact with the periphery of the hollow body of said second coupling member, and a second annular stop flange radially outwardly protruded from a top end of the hollow body of said second coupling member and disposed in contact with an inside wall of the hollow body of said first coupling member.

15 5. The spring-based crankshaft coupling structure as claimed in claim 1, wherein said axially compressible spring member is a compression spring.